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CLINICAL LECTURE.

TREATMENT OF TYPHOID FEVER: TWO RELAPSES AND OTHER COMPLICATIONS. — ASTHMA ASSOCIATED WITH EMPHYSEMA AND CHRONIC BRONCHITIS.[1]

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Typhoid Fever.

The case before you is the one of typhoid fever, which you will recall was presented at this clinic last Wednesday. Girl, A. A., domestic, 23 years old. Her family history is unsatisfactory. Six weeks before her admission she was taken ill in Pittsburgh, improved, came to Philadelphia, and was soon after admitted to the female wards of the Philadelphia Hospital and found to be suffering with typhoid fever—most probably a relapse.

She had, as you will remember, three or four serious complications, one of which was hypostatic congestion, the result of a weak heart, which in turn was due to parenchymatous degeneration of the myocardium. She had had two hemorrhages from the bowel, and after the second hemorrhage, one was in a state closely approaching collapse.

About January 1, after recovering from her first relapse and after having had a subnormal temperature for about one week, she got up at night during the absence of her attendant, and ate heartily of candy, apples and cake. The next day her temperature was 104°, and this rise of temperature was followed by the other symptoms of the second relapse which was attended with moderately high temperature.

Errors of diet cause a relapse because of the latent virus still existing in the system. You will also recall the affection existing in the leg, which was swollen and painful to the touch. The swelling was localized over the middle third of the fibula and outer aspect of the os calcis, not due to thrombosis, but most probably to periostitis, or possibly to a pyemic condition; as small abscesses under the skin occur after typhoid fever. A pyemic condition has not, however, been developed. There exists tenderness only over the os calcis and outer third of the fibula. Making pressure over the fibula, we find it thickened and roughened as compared to that of the other side. There is pain developed, especially at night. Thickening of the bone, tenderness on palpation and pain at night are certain evidences of periostitis. As a rare sequel, it comes on two or three weeks after convalescence has set in; but it may occur during a relapse, as in this case. During the attack there has been some bronchitis and, later, pneumonia. You will recall the previous history; that there existed a feeble heart, which leads to hypostatic congestion of the lungs, and that there was no active bronchitis. The physical signs were: impairment of resonance on percussion and, later, crepitant râles.

During the patient's present or second relapse she developed pneumonia. In her case, in addition to the physical signs at the right base, there was rusty sputum, which indicated a lobar pneumonia. In patients much exhausted, as this one is, you do not have all the characteristic physical signs and symptoms of pneumonia. She has not the signs of collapse of the lung or bronchopneumonia. You are apt to have hemorrhagic infarction, especially where there is a pyemic condition, and when it occurs the emboli will lodge in the lower lobe of the right side. This is the result at times of

[1] Delivered at the Philadelphia Hospital.

venous thrombosis from feeble circulation, as you may remember, in her case during the former relapse. When pulmonary hemorrhage occurs, there will be dulness on percussion, feeble respiratory murmur and frequently bronchial breathing, with expectoration of a bloody or sooty-looking matter—not the characteristic sputum of pneumonia as in this case—with great pain. Another complication, which occurs once in about ten cases, is the albumin in the urine. In this girl's urine, it was found ten days ago in abundance. During her first relapse no albumin was found after repeatedly testing the urine. When considerable albumin is found during the course of a case of typhoid, it is good evidence of desquamative nephritis. During her first relapse the girl had four complications, and during her second relapse, three. The chief physical signs of the pneumonia have disappeared, but there still remains here some dulness and feeble respiratory murmur. The prognosis in relapse is good, provided the previous attack has been severe; but when the primary attack is mild the prognosis is bad.

When called to treat a case of typhoid fever, first place the patient in the largest and most airy room, with an open grate if possible; since this is preferable to a window as a means of ventilation. See that the sanitary arrangements are as perfect as possible. The leading indications calling for treatment are, to support the vital functions, to control the fever when high, and to arrest or modify the complications and sequelæ. As long as the temperature does not rise above 103°, there is, as a rule, but one object to fulfil, namely, to support the bodily functions. Attention must first be paid to the feeding. Food should be given at regular intervals of two hours each, and should consist mainly of milk. Should this be found to disagree, give it peptonized, that it may the more easily be assimilated. If it still disagrees, give, before each feeding, a mixture consisting of two grains of pepsin and five minims of dilute muriatic acid in syrup and water. Well-cooked farinaceous articles, such as barley, may be added to the milk; animal broths, in small quantities, may also be allowed. The system must also be sustained. This is best accomplished with quinine. If the temperature does not run high, two grains four times daily is sufficient. In the third week, gentle stimulation should be given, of about one-half ounce of either brandy or whiskey every four hours. In the severe forms, we must also diminish the fever and arrest complications and sequelæ. The reduction of the fever is sometimes imperative. This is best accomplished by the cold-water treatment. Do not be afraid to sponge the patient freely. Instruct the nurse to sponge in succession the face, neck, arms and chest as long as agreeable to the patient. If this does not suffice to bring down the temperature, use cold compresses, of ice-bags or cloths wrung out of cold water. Often, when placed to the head, this will reduce the temperature of the whole body, quiet the delirium and produce sleep.

If this does not suffice to reduce the temperature, place the cooling applications also on the stomach. Do not use the cold bath, unless the tub can be brought to the side of the bed, and only when the temperature is dangerously high or profound coma exists. Do not leave the patient in the bath longer than eight or ten minutes, and when he is taken out wrap him well in blankets, giving stimulants if he be exhausted.

In the way of internal antipyretics, do not use them unless the morning temperature is at or above 103°, no matter if the evening temperature should be 104°. If both morning and evening temperature is high, or if there be but slight remissions, you may resort to them early in the attack, if cold water does not suffice.

A number of remedies are advocated: antipyrin, antifebrin, phenacetin, salicylate of sodium, quinine, etc. Sodium salicylate disorders the stomach and sometimes causes albuminuria. Don't use it. I have found antifebrin, given in doses of two grains at night, to act as effectually as larger doses (ten grains for instance), and thus have avoided the danger from collapse. Phenacetin is said not to depress; but do not give it in large doses. When the temperature is dangerously high, then you may resort to heroic measures; indeed, this may be the only means of saving your patient. You may use the bath-tub, or rub the surface with ice, which answers the same purpose, or as a *dernier ressort*, give a large dose of some internal antipyretic.

The treatment of complications is all-important. Attend to the most urgent symptoms, one of which is headache; three grains of phenacetin, with twenty grains of sodium bromide, given occasionally will mitigate it. When there is distention of the abdomen,

do not use the hypodermic needle—use turpentine stupes. If this fails, give turpentine internally in emulsion. Diarrhœa, when prominent, should be treated with mild measures first; bismuth in full doses will generally control it, or a mixture of equal parts of tincture of catechu and paregoric gives good results. If it is not controlled in the manner stated, give one-quarter grain of nitrate of silver with opium, in pills every three hours, or two grains of acetate of lead every four hours, or suppositories of tannic acid and opium.

Of complications, perforation is the most serious, and requires active and timely treatment. In the books it is generally stated that opium is to be given in large doses; thus, metaphorically speaking, the bowel is placed in splints and peristalsis is arrested. This is unnecessary. Enough opium should be exhibited to relieve pain, and saline laxatives should be administered until a gentle movement is produced. Rochelle salts, in doses of a drachm every two hours, is the best for this purpose. Should thrombosis occur, elevate the limb, rub gently with vinegar and water or laudanum, and give internally stimulants, especially carbonate of ammonium. The pneumonia was here treated in the same way as the hypostatic congestion, because the indications were the same, namely, to stimulate and support well the patient. In this case, for the hemorrhages of the bowels, we employed ergotine hypodermically, and cold externally. Astringents may also be used for this accident.

With the above plan of treatment, you should not forget to disinfect thoroughly the stools. There is no longer any doubt but that the disease may be contracted through the lungs; hence it is well to have doors, floors and window ledges washed with some disinfectant in solution, or better still, after the patient leaves his room, to have it fumigated.

Asthma and Emphysema.

This man is 48 years old, and a sailor. His father died of pneumonia at 58, his mother of paralysis at 85 years. One brother died of asthma; another brother, living, has asthma. As a child this man had measles and scarlet fever. In India he had jungle fever. His present trouble began when he was 5 or 6 years old; at first the attacks of dyspnœa always came on at night, later they would occur during the day, the paroxysms increasing in severity. Between the attacks he would feel quite well. When young he learned the tanning trade, but early in life he gave it up, as he found it made his condition worse. Changing his occupation, he took to the sea and found the tropics agreed best with him. For twenty-five years he carried stramonium leaves with him, which he would steep in a solution of nitrate of potassium, burn them, and inhale the fumes. This gave him immediate relief; later, when the paroxysms increased in number and severity, the remedy lost its effect, until finally it lost control altogether. When in ports, he would obtain remedies from physicians for the attacks. For the last few years his condition has grown steadily worse. About the middle of November, 1890, he was shipwrecked at sea, where he remained three days without food and shelter.

Since then the attacks were notably increased, and he had them worse than ever. He stated that he has tried all the remedies ordinarily used, but they failed to relieve him. His last attack continued four hours, during which time he smoked stramonium constantly without good effect. January 11, when admitted to the Hospital, he was greatly cyanosed, his face, lips, nails, lids and eyes were blue, and his chest immovable. He was given at once nitrite of amyl by inhalation, with but momentary good effect; later he was given chloroform by inhalation, with but temporary relief. He was then directed by one of the residents to have tincture of conium, f℥ss, every half hour until four doses had been taken. When he had taken the third dose his breathing grew suddenly better. Obviously, the remedy deserves further trial. On admission his chest was as you see it now. It is greatly distended in all directions, is distinctly barrel-shaped. The neck seems short, from the chest being drawn up by the muscles of the neck, with marked depressions above the clavicles. The ribs are prominent anteriorly, and there is but little lateral movement of the chest in respiration. The stomach moves forward with each inspiration, which indicates a condition far advanced in emphysema. Percussion gives great hyper-resonance, almost tympanitic, while over the heart we get lung resonance. The cardiac dulness commences as low down as the sixth rib. Normally it should begin at the fourth, and there is only a very limited amount of dulness on account of the overlapping of the lung. The apex impulse is

lower than it should be. Below the costal border of the right side there is dulness, owing to the liver being depressed; and the lung resonance extends more than one inch lower than it should. In advanced cases of emphysema there is a marked degree of vesico-tympanitic resonance and great displacement of the heart and liver, as in the present case—a condition which is sometimes mistaken for pneumo-thorax. In the latter affection, you have, as a rule, the history of phthisis, of the occurrence of great pain followed by the signs of air in the chest. The breathing becomes at once difficult, the pulse rapid and feeble. Pneumo-thorax generally occurs on one side, though it may be bilateral, when it is more difficult to diagnosticate. The pain may be wanting, in which case, rely only on the physical signs in diagnosticating between this disease and emphysema. Inspection and palpation give the same result in both affections, except over the seat of effusion in pneumo-thorax, where vocal fremitis is wanting.

Percussion resonance in pneumo-thorax is more hyper-resonant, is frequently tympanitic; and where effusion occurs, a sharp line of dulness can be drawn at the level of the liquid, which line changes with the position of the patient. Over the seat of the effusion, there is flatness; but there is none in emphysema. On auscultation we get weak respiratory murmur, or the amphoric respiration and voice, which does not occur in emphysema; also metallic tinkling, and, on succussion, the splashing sound. In pneumo-thorax the heart and liver are usually displaced more than in emphysema, but rarely more than you see in the patient before you, suffering from emphysema. An enlarged heart may be mistaken for emphysema, because the apex is depressed; but the presence of clear percussion resonance over the heart, together with the symptoms belonging to emphysema, would aid in establishing the diagnosis. I want to lay stress upon the fact that you may have cardiac hypertrophy associated, and not be able to detect it.

The diagnosis of emphysema is almost certain when asthma is associated with it, as in this case. Here we have the history of asthma in the family, it being hereditary, which, however, is also the case with emphysema. The man gives us a clear history of chronic bronchitis, which began before the emphysema. The latter is probably due to the former disease. The prognosis, as far as immediate danger to life is concerned, is fair. The patient should be saved as much as possible from the exciting cause of asthma. A residence in a tropical climate would doubtless give him the best chance for increase of years.

As to treatment: It is necessary to prevent the degeneration of the air vesicles as much as possible by giving iron and arsenic in small doses, long continued. The ideal treatment would be to breathe into rarefied air and inspire condensed air. An instrument for this purpose can be obtained. The asthma should be treated with stramonium in cigarettes, and inhalations of chloroform; morphia hypodermically is an efficient remedy. Tincture of lobelia, gtt. x, every half hour, may be given during the paroxysms, if it do not cause too much nausea. Potassium iodide may be administered during the intervals, or the following recipe, when there is more or less active bronchitis and considerable expectoration associated with the emphysema, as in the present case:

℞ Syr. acid hydriodici . . . . . f℥ii
Syr. scillæ . . . . . ʒiss
Spts. chloroformi . . . . . m.c
Syr. pruni Virgin. . . . . q. s. ad. f℥iv

M. Sig. Teaspoonful every three hours in water.

COMMUNICATIONS.

PRACTICAL USE OF THE METRIC SYSTEM.

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By an act of Congress, in 1792, a decimal system of currency was formally adopted for this country, necessitating the adoption of conceptions of value to a unit less than a quarter as great as the English pound, with which the people are familiar. For the last few years a decimal system of measuring drugs, established upon a scientific basis, with a simple and logical connection with other systems of mensuration, and already in practical use in other countries, has been awaiting recognition by the medical profession in England and in the United States.

The prime unit of this system is the meter, a line one-tenth millionth of the length of a quadrant of a terrestial meridian. A

cube constructed on the decimeter (one-tenth of a meter) is the unit of capacity, and is called the liter; it differs but little from our quart. The weight of one cubic centimeter of pure water at its point of greatest density, 40° C., and in a vacuum, is the unit of weight, and is called a gram. A liter, therefore, contains 1,000 grams of water and a little calculation will show that the gram is equivalent to about one-quarter of a drachm, or fifteen and four-tenths grains. In all metric scales the prefixes deka, hecto and kilo are used to form the names of units 10, 100 and 1,000 times the prime unit. The kilogram, for example, is equal to 1,000 grams, and it is the unit of weight in small commercial transactions, being equivalent to two and two-tenth pounds.

The prefixes deci, centi and milli indicate, respectively, one-tenth, one-hundreth and one-thousandth of the prime unit.

As far as prescription writing is concerned we need no other terms than gram, centigram and milligram, omitting the words decagram, hectogram, kilogram and decigram, just as in speaking of money we discard the words eagle and dime. For example, the expression 10.25, referring to money, would be read "ten dollars and twenty-five cents," not "one eagle, two dimes and five cents." Occurring in a prescription, it would be read: "ten grams, twenty-five centigrams," instead of "one dekagrame, two decigrams and five centigrams." As we have to deal more with little things in medicine than in business, the milligram, unlike its analogue mill, in our money, assumes considerable importance.

The cubic centimeter, familiarly abbreviated and pronounced "c. c.," is often used as a liquid unit, corresponding to the gram. To avoid confusion with the centigram, it would be well to drop the expression "cubic-centimeter" and to use the word gram or fluid gram, instead. It may be remarked in passing, that the relation between the gram and cubic centimeter is nearly the same as exists between the grain and minim; but whereas the correspondence between the gram and cubic centimeter is scientific and exact, that between the grain and minim is merely approximate.

Advocates of the metric system often insist upon the dispensing of liquids by weight instead of volume. There can be no reason why the gravimetric, as opposed to the volumetric, method should be more closely linked with the decimal system than with the apothecaries' system. For purely scientific purposes, the weight of a substance is a more accurate expression of its quantity than the space which it occupies. On the other hand, our conception of the quantity of a liquid is more naturally connected with its volume than with its weight. The relation between the volume and the weight of a liquid is so little affected by the slight variations of temperature and atmospheric pressure in different drug-stores at different times; the loss by evaporation so far exceeds the greatest possible variation due to changes of temperature and pressure; the use by the patient of scales, or even of accurate measures in taking single doses, is so impracticable; and, lastly, our estimation of the proper dose of a drug is so much a matter of approximation—that an insistance on the less convenient method of dispensing liquid drugs by weight is very much like straining at a gnat after swallowing not only the camel, but a considerable portion of the rest of the menagerie.

What are the advantages of the metric system? Briefly speaking, the same as those which our decimal monetary system possesses over that of Great Britain. In detail they are:

(1). A simplification of the process of multiplication in constructing a prescription. (2). A simplification of the process of division in calculating from a complete prescription the amount of each drug given at a single dose. (3). The ease with which the proportion of drugs in antiseptic solutions, liniments, ointments, etc., may be indicated. (4). The use of units small enough to express conveniently the doses of very powerful medicines. (5). A close correspondence between our already existing conceptions of value as expressed in dollars, cents and mills, and the powerfulness of drugs as expressed by their metric dosage.

It is probable that an Englishman coming to this country will derive no immediate benefit from our system of money. Since he thinks in pounds, shillings and pence, it is of no advantage to him that cents can be converted into dollars by moving the decimal point; for before he can have a clear conception of the value of an article, cents must be converted into units with which he is familiar. So there is no benefit to be derived from the mere writing of prescriptions with Arabic figures and in terms of French units with which we are unfamiliar. Not until we can think naturally in the metric

system are we profited by its use. It is sheer nonsense for a man to write such a prescription as this:

℞ Argenti nitratis 13
Aquæ dest. 31.00

He is thinking of "two grains to the ounce," and it is quite likely that the druggist will fill the prescription, using the two-grain weight and the ounce measure. Not only is nothing gained by such "metric" prescribing, but there is the positive danger that, in the conversion from one system to the other, some error will be made. "Two grains to the ounce" represents a proportion of 1 to 240, or near 1 : 250. The prescription should, therefore, take the following form:

℞ Argenti nitratis 10
Aquæ dest. 25.00

In writing for medicine which is to be measured in doses, we must bear in mind the number of doses needed and the size of the measure from which the medicine will be given. The following table shows the relation between the ordinary dose-measures and the metric units:

One drop	.03
An old and worn teaspoon	3.50
A new teaspoon	5.00
A dessertspoon	10.00
A tablespoon, brimful	15.00
A tablespoon, heaped as much as the cohesion of the liquid allows	20.00

Suppose that we have to deal with a transient case of diarrhœa. We first set down the ingredients of our prescription without reference to the quantity to be given. We next decide upon the number and size of our doses. Ten doses will probably suffice, and a dessertspoonful (10.00) is a convenient amount for each administration. We therefore order enough of the vehicle to make 100.00. Our prescription is now in the following form:

℞ Ext. hæmatoxyli
Ac. sulph. arom.
Ol. cajuputi
Mucil. acaciæ
Syr. simplicem ad 100.00

To complete the prescription, we multiply the dose of each ingredient by ten. We may leave the amount of the mucilage to the discretion of the pharmacist.

℞ Ext. hæmatoxyli	2.50
Ac. sulph. arom.	5 00
Ol. cajaputi	2.50
Mucil. acaciæ	q. s.
Syr. simplicem ad	100.00

S. Dessertspoonful (= 10 c. c.) every three to six hours.

Most medicines will be given by the teaspoonful, and twenty or thirty doses may be conveniently dispensed at once. The teaspoonful may be reckoned either as four or five fluid grams. The use of the latter number is preferable, and, when accuracy is necessary, five fluid grams can be marked off on a test-tube by the apothecary. The ordinary mixture will, then, amount to 100.00 or 150.00 fluid grams.

The following prescriptions may serve as an illustration of the method of calculating a single dose:

℞ Ammonii chlor.	5.
Ol. eucalypti	10.
Mucil. acaciæ	q. s.
Syr. pruni Virg.	50.
Aquam ad	100.

S. Teaspoonful after meals.

℞ Calcii lactophos	4.
Ol. morrhuæ	
Mucil. acaciæ	aa 150.
Ol. amygd. amar.	.10

S. Tablespoonful after meals.

The first prescription evidently consists of twenty five-gram doses. One-twentieth of 5 grams is a quarter of a gram, or 25 centigrams; one-twentieth of 10 is ½, or 50 centigrams; one-twentieth of 50 is 2½. The second prescription contains twenty doses each of fifteen grams. Half of each fifteen grams is cod-liver oil. Twenty centigrams of calcium lactophosphate are given at each dose, and half a centigram, or five milligrams of oil of bitter almonds. The last is rather a small dose, but the chief use of the essential oil in the emulsion is as a flavor.

Will the reader please contrast mentally the foregoing process of multiplying or dividing by 10, 20 and 30 with the corresponding multiplication or division by 12, 16, 24, 32, and the conversion of grains into drachms, and of drachms into ounces, or, *vice versa*, by the use of the numbers 60 and 8?

In prescriptions for external use, not only the amount but the proportion of each ingredient is plainly indicated. For example:

℞ Plumbi acetatis	
Tinci sulphatis	aa 1.
Ext. hydrastis fl.	25.
Aquam dest. ad	500.

Those who have been accustomed to remembering proportions as so many grains to the ounce should bear in mind that each grain to the ounce represents a strength of

about 1 to 500. In making antiseptic solutions, the physician will find in almost every household a close approximation to the 1,000 gram measure in the shape of a quart cup.

Only a few of the recently discovered alkaloids and glucosides can be given safely in doses of more than a fraction of a grain. The use of fractions is inconvenient in remembering the dose, in writing the prescription and in compounding it. The metric system, on the other hand, furnishes a unit, the milligram, so small that nearly all doses can be written in integers. To the best of the writer's knowledge there is no substance which could not be given to an adult with safety in a dose of half a milligram.

In our money matters we have not only the universally recognized unit but other amounts whose frequent use has elevated them to the position of auxilliary concepts of value. Many of these are spoken of in arithmetics as aliquot parts of a dollar. 2, 3, 5, 10, 12½, 15, 20, 25, 30, 33⅓, 50, 66⅔, 75, are examples of such values expressed in cents. 7, 11, 19, 47, etc., are examples of numbers to be avoided both in price lists and in dosage.

In becoming familiar with the metric system, it is well to group together, as far as possible, drugs of the same degree of *powerfulness*, and to think of the appropriate dose of a drug not merely as a quantity or weight but as a number which assigns to the drug its place in a scale. For example, if we pay twenty-five cents for an article we think of the twenty-five cents not merely as so much expenditure, but as an index to the value of the article when compared with the price of other similar articles. So, if the dose of a drug is 25 centigrams, we should think of the 25 centigrams, not as an arbitrary quantity, but as an expression of the *powerfulness* of this drug when compared with others. The following table of what may be termed dose values will prove useful in estimating the doses of other drugs which we may from time to time employ and the strength of which we know to bear a certain relation to that of the drugs mentioned:

.001—Atropine, hyoscyamine, hyoscine, physotigmine.
.002—Strychnine, picrotoxin, nicotine.
.005—Concentrated preparations of arsenic, gold salts, mercuric salts.
.01—Morphine, apomorphine, emetine, pilocarpine.
.02—Salts of copper, silver and zinc as nervines. Most of the poisonous extracts.
.05–.10—Most iron salts, codeine.
.15–.25—Most volatile oils, lead acetate, caffeine, acetanilide.
.25–.50—Ammonium carbonate and chloride, quinine, antipyrin, bismuth sub-nitrate and sub-carbonate.
1.00—Most hypnotics, salicylic and benzoic preparations, many moderately strong tinctures and fluid extracts.
2.–5.—Most tinctures and fluid extracts.
10.–15.—Syrups, infusions, etc.
10.–25.—Many saline cathartics, castor oil.

Although the metric system is best learned independently, those who are already familiar with the apothecary's system will need a scale of equivalents, and the following is approximately correct:

$\frac{1}{100}$ grain	= .001	℥j	= 4.00
$\frac{1}{60}$ "	= .01	ʒj	= 30.
3 grains	= .20	Oj	= 500.
4 "	= .25		
15 "	= 1.00		

In changing from the old to the new system, do not first write the prescription in the former system and then attempt to give its equivalent in the latter. After writing a list of the ingredients of the prescription, order the vehicle up to 10, 20 or 30 times 5. c. c. Then translate separately the single dose of each drug into metric terms, adding or subtracting a little if necessary to make the amount an aliquot part of the gram. Then multiply by the number of doses in the prescription. In this way—to borrow an expression from the teacher of languages—the metric prescription will be idiomatic and not a literal translation of one written in the old system.

The writer has been led to present this article because he realizes that many of the suggestions contained in it would have saved him much trouble if they had been available when he began to learn the use of the metric system. His own experience has been that one not too long accustomed to the apothecary's system can learn in a few weeks to use the metric system naturally and easily, and that its simplicity more than compensates for any difficulties which are met in the transition from one system to the other. A practical experience of nearly two years has shown him that, in Buffalo at least, pharmacists are invariably as well equipped to fill metric prescriptions as those written in the old system; and that, while the medical men who use the metric system are in the minority, the minority is by no means insignificant, either in numbers or in influence.

TREATMENT OF CLUB-FOOT, PAST AND PRESENT.

BY LUCIA REDDING THOMPSON,

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A retrospective view has led me to compare the past and present treatment of club-foot, and to note a few of the many progressive steps which have given this wonderful century its pre-eminence. According to tradition, the custom of distorting the feet of Chinese women is a relic of an edict to render the deformity of an imperial child less noticeable by making the malformation common, thus confessing the impossibility of cure.

It is well known that Lord Byron abandoned any attempt at correcting his deformity after years of treatment. Previous to the time of Stromeyer, the treatment of club-foot was purely mechanical, and the orthopedic surgeon stood upon the level of the mere instrument maker, or upon the border line of empiricism. In the light of to-day, we can only pity those "cheated by dissembling nature deformed, unfinished, sent into this breathing world scarce half made up," at a time when men were afraid of the knife, and such measures as resection of the tarsus, tarsal osteotomy, open incision, tenotomy, etc., were unknown. With the development of antiseptic and aseptic surgery, radical measures have been adopted, and at the present time, few surgical procedures are more precise in their indications or more certain in their results.

The club-foot deformity is usually congenital, but it may be acquired after infantile paralysis, accident, or that inflammatory condition of the fibrous tissues about joints covered by the vague term "rheumatism."

Vague and various theories have been advanced in explanation of the congenital variety of club-foot. Maternal impressions, compression in the uterine cavity, lesions of the nervous system, etc. Heredity has also been strongly declared to be an etiological factor, and as such we must recognize it. At the same time we must admit that, though living in an age when all the symptoms of nature are exhibiting their mysteries, with ample facilities for investigation, the laws of heredity baffle the scientist, and we know no more than we know how it is that children inherit the features of their parents. We must admit that we are ignorant of the causation of club-foot, and unable to give an explanation of the phenomena of its development.

This position of the tarsal bones varies with the variety. In the congenital form, the scaphoid will be found articulating with the side of the head of the astragalus, rather than with the anterior surface. The cuneiform bones must follow from their close connection. The os calcis is usually found in the vertical position. The astragalus is so much distorted that it cannot be recognized by the most profound anatomist.

The only rational treatment consists of a combination of operative and mechanical means. The age at which treatment should be commenced is a matter of discussion. Many claim that operation should not be done before the end of the first year. Dr. H. Augustus Wilson, Professor of Orthopedic Surgery in the Philadelphia Polyclinic, advises early operation. As it is well known that in infancy and early childhood the ends of the bones are largely cartilaginous, it is therefore rational to believe that the sooner the foot is corrected the better. Prof. Wilson advises tenotomy with subcutaneous division of fascia, *in mild cases*, followed by some form of mechanical retention, until the bones adapt themselves to the normal position, and the muscles recover their tonicity. After operation, the foot should be placed in the corrected position by manual force and retained with a light plaster-of-Paris bandage.

In the New York *Medical Record*, Dr. A. M. Phelps reports one hundred and ninety-six cases treated by direct open incision since 1888. The advantages of open incision must be apparent. The surgeon becomes master of the situation, as he has every facility for complete division of all contracted tissues. Arteries can be spared by careful dissection, or cut and tied. In obstinate or inveterate cases, the ligaments should be divided; open incision renders this possible.

Dr. Thomas G. Morton's operation for club-foot cannot be too highly commended. He recognizes the astragalus with its forward dislocation as a check to the action of the joint, or as a foreign body, and therefore removes it. His results are good, as his series of cases at the Orthopedic Hospital will prove.

Again, for a moment, I would look backwards. Could a man of the last century have seen in a vision of the future the results of measures put into execution by men of this marvelous era, his heart would have

leaped, his nerves thrilled; for plainly he would have seen the hereditary curse lifted from those apparently condemned by nature. And instead of seeing behind the faint tinges of an expiring sunset would have seen all the glory of the daybreak decking the skies before.

GASTRIC ULCER.[1]

BY M. J. WEBER, M. D.,

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I purpose in this paper to call attention to an affection of the stomach, which, by its protracted course and the insidious manner of its development, along with the entire absence of any characteristic symptoms in many cases, often destroys life before the real nature of the malady is even suspected. I refer to gastric ulcer, the simple round ulcer of the stomach.

This disease, which is common in some parts of the continent of Europe and in England, is, according to Da Costa, comparatively rare in this country. Professor Welch states that he met with six cases of open ulcer of the stomach in about eight hundred autopsies. It has been my fortune to meet with two fatal cases of this disease, in which the diagnosis was verified by *post-mortem* examination; and two other cases in which I had diagnosticated gastic ulcer, one patient recovered under treatment, while the other passed out of my care and died, no autopsy being held.

Gastric ulcer may cause death in three ways: First, from perforation of the walls of the stomach and escape of its contents into the abdominal cavity; second, from perforation or erosion of blood-vessels and consequent hemorrhage; third, from gradual exhaustion.

Inasmuch as each of my two fatal cases represents one of these modes of death, a short history of each of them may not be uninteresting.

Case 1. Mrs. Y., seventy-two years old, while sweeping a bed-room was suddenly seized with a feeling of faintness, and immediately began vomiting bright red blood in large quantities. She sank to the floor and was lifted into bed. When I saw her, about fifteen minutes afterwards, she was vomiting partly coagulated blood profusely. I had some tincture ferri chloridi with me, which I gave her in teaspoonful doses, somewhat diluted, and the hemorrhage soon ceased. The woman vomited no more blood for four days, when the hemorrhage began again, and continued in spite of all treatment for three days, until she died exsanguine, seven days after the initial hemorrhage. In the four days during which she had no bleeding, she passed several dark, tarry-looking stools, which showed that blood had passed downward into the intestines.

The autopsy showed the stomach full of clotted blood, which, being turned out, revealed an open ulcer three-fourths of an inch in diameter on the posterior surface of the stomach, one and one-half inches to the right of the cardiac orifice and near the lesser curvature. On the anterior surface was another open ulcer, directly opposite the one on the posterior surface, and slightly larger, but not so deep. Close by the ulcer on the anterior surface, was a large cicatrix, which no doubt marked the site of an ulcer that had healed. The ulcer on the posterior surface had a hole in its floor large enough to admit a silver probe. This hole opened directly into the splenic artery, which was firmly adherent to the stomach at this point, and very calcareous. The cause of the hemorrhage was thus fully explained. The mucous membrane of the stomach and duodenum was thickened and dark red, and showed everywhere the marks of chronic catarrhal inflammation. The gall-bladder was completely filled with gall-stones. Over four hundred were taken out. This woman had never complained of anything more than a little regurgitation occasionally after meals, and the ordinary symptoms of dyspepsia. There had never been any biliary colic.

Case 2. Mr. K., farmer, sixty-nine years old, came to my office complaining of trouble in his stomach. He had walked about one-third of a mile, and seemed greatly fatigued. His symptoms for the last three years had been: partial loss of appetite, a feeling of uneasiness and fulness in the stomach after eating, constipation, flatulence, heartburn and eructations of gas; in short, all the symptom of chronic gastritis. There had never been any great pain in the stomach, nor any vomiting or hemorrhage. His symptoms during the last year had been gradually growing worse, and during the last twenty-four hours he complained of

[1] Read before the Montgomery County Medical Society.

considerable pain in the epigastrium, and felt very ill in general. His tongue was coated, his pulse was 90. Percussion over the abdomen elicited great tenderness in the epigastric, umbilical and right hypochondriac regions. This tenderness was so great that a satisfactory examination could not be made. I diagnosticated a local peritonitis, caused most likely by a perforating ulcer of the stomach or duodenum, and advised the patient to go to bed, setting forth the gravity of his condition, and prescribing opium for him. He went home, but did not go to bed, and the next day I found him sitting in a chair, vomiting frequently, and complaining of pain over the whole abdomen. He now had the symptoms of a general diffuse peritonitis. Eight days afterwards he died. The autopsy revealed a diffuse peritonitis, the intestines being matted together and adherent to the whole anterior surface of the abdomen. Examination of the stomach revealed an open round ulcer one and one-fourth inches in diameter immediately adjoining the pyloric orifice, and on the lesser curvature. The edges of the ulcer were thickened, and a perforation in its floor communicated with its peritoneal cavity.

The history of these two cases shows how serious a disease gastric ulcer is, how insiduous and protracted may be its course and how great is the importance of its early recognition.

It is not my intention, in this paper, to enter into any detailed consideration of this disease. A short description will suffice.

The characteristic symptoms of gastric ulcer are pain, hemorrhage from the stomach, vomiting and disturbances of digestion. Pain is the most constant symptom, and it usually becomes more acute within a half hour after eating. Many cases of ulcer of the stomach occur, however, which present nothing but the symptoms of chronic gastritis. Gastric ulcer occurs with greater frequency among women than among men. According to Dr. Brinton the proportion is two women to one man.

The cause of gastric ulcer is obscure. Abercrombie and Cruveilhier believed it to be the result of chronic gastritis. Rokitansky and Virchow assign its origin to a local embolism or thrombosis. Riegel ascribes the chief cause to a constant state of hyperacidity, while Engel held that gastric ulcer was not due to any one cause, but might originate in a variety of ways. This was also Brinton's view.

Gastric ulcers occur mostly on the posterior wall of the stomach, on or near the lesser curvature, and usually near the pylorus. They are usually round, and if recent have sharp edges and look as if a circular piece had been cut out with a punch. Old ulcers, however, become somewhat irregular, the greatest loss of substance being in the mucous coat.

The duration of gastric ulcer is variable. It may exist for years before causing much trouble, and a fatal termination may occur within a few days after the initial lesion. Brinton states that he had a case under observation for thirty-five years, while Niemeyer relates the case of a physician who died from a perforating ulcer of the stomach eight days after he felt the first symptoms. Probably from three to five years is the average duration. In the second of the cases I have described the ulcer certainly existed for three years.

In many cases of gastric ulcer the diagnosis is easy, while in other cases it is impossible or amounts only to a suspicion. The two diseases with which gastric ulcer is most likely to be confounded, in the absence of a tumor, are nervous gastralgia and chronic gastric catarrh. In case of doubt, however, it is best to put the patient for a time on the proper treatment for gastric ulcer.

What should be the character of the prognosis in this affection? It seems to me that, in view of the danger of sudden perforation or severe hemorrhage, the prognosis should not be too favorable. Then, too, cases often relapse after recovery has begun. The case mentioned above as having ended in recovery, relapsed about six weeks after treatment was begun. The patient thought she was well, went visiting and ate heartily of beans, cold-slaw and ham, and all her former symptoms returned. Two months more of careful treatment cured her.

In treating gastric ulcer, diet is very important. We should seek to remove all sources of irritation from the ulcer, so that the process of repair may go on uninterrupted.

This may be accomplished by giving the stomach complete rest and nourishing the patient entirely with nutrient enemata. This method of administering food, however, presents many difficulties in practice, and I believe is rarely required. By a proper selection of the diet, the patient can be more satisfactorily nourished by the stomach,

without interfering with the healing process.

The most valuable article of diet in this disease is milk. Under an exclusive milk-diet, the pain and vomiting cease and cicatrization takes place. The patient should take from one to two quarts a day. Where plain milk disagrees, peptonized milk may be tried. This preparation has proved exceedingly valuable in the treatment of gastric ulcer. After three or four weeks, meat broths, farinaceous foods, soft-boiled eggs, etc., may be given. For at least three months the patient should be confined to easily-digested food; and when there is reason to believe that the ulcer is healed, the usual diet may be gradually resumed.

The drugs most used in the treatment of gastric ulcer are subnitrate of bismuth and nitrate of silver. I have carried out Trousseau's plan of giving these drugs in succession every two weeks, with success. By this method the danger of causing argyria is averted.

The best way of relieving the pain of gastric ulcer is by the use of opium in some form; but, in prescribing opium in this disease, the physician should not forget the danger of establishing the opium habit. Besides this, opium retards digestion and increases the constipation already present.

The treatment of complications, such as vomiting, hemorrhage, dyspepsia, etc., is the same as when they occur under other circumstances.

For the relief of the constipation, I found no drug or combination of drugs to answer as well as maltine with cascara sagrada.

RECENT MEDICAL JURISPRUDENCE.

HENRY A. RILEY, ESQ.,

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A recent case in New York is of much interest to physicians, as it bears on the question of collecting bills. In this case, the physician seems to have been at fault, and the Court refused to come to his aid.

The circumstances were as follows: The mother of a patient went to the physician and paid him the amount asked for on account of his services, and received a receipt "in full for medical services." The mother had requested the services, and was understood by the physician to be acting for the patient in making the payment. The latter, however, did not authorize the payment. The physician afterwards brought a suit against the patient, to recover a further amount, claiming that the services were worth more than he had received. There was no satisfactory explanation given of the receipt in full, and the physician did not show that the receipt was, in fact, for part of the services, instead of them all. The Court held, on this point, that the receipt in full was *prima facie* evidence of payment for everything, but was subject to explanation showing a misunderstanding. The physician failed to show this, but relied mainly on the testimony of experts to prove that the services were really worth more than he had received. The Court refused to be influenced by such testimony, and said that when the amount due had been adjusted and paid, the opinions of other persons, that the services were worth more than this sum, could not be considered. I have no doubt that this decision is good law in other States than New York, and it certainly is good sense.

The present cold snap will no doubt cause many accidents from slipping on the ice and snow, and the sufferers will certainly be anxious to sue some one and recover damages for their pain and grief. Most persons, in such circumstances, decide to sue the city or town authorities, rather than the owners of the properties in front of which the accidents occur. These suits are brought on the theory that the city or town is responsible for the care of the streets, and must keep them in a passable condition or suffer the consequences. The Courts recognize and enforce this general rule, and, as a result, there are many actions brought and many judgments secured. There is a limit, however, to the responsibility for sidewalk accidents, and the city cannot be made to pay for every slip and fall. In a recent case the limitations are thus stated: "The duty resting upon municipal corporations to remove accumulations of ice and snow as it falls from time to time upon their streets is a qualified one, and becomes imperative only when dangerous formations or obstacles have been created, and notice of their existence has been received by the corporation. Actual notice to the public authorities is not in all cases required, and it has been held that negligence may be inferred from the omission by the corporation to cause dangerous obstructions to be removed from the streets, after sufficient time has elapsed to afford a

presumption of knowledge of their existence and an opportunity to effect their removal."

In a late criminal case in Kentucky, the Court was called upon to decide whether oral evidence could be introduced to prove the contents of a written statement made by the injured man when in expectation of death. The accused person had in some way destroyed or concealed the written statement, and it was held that in such a case oral evidence was perfectly proper. The Courts are, however, careful to require the best evidence to be produced, and this, in ordinary circumstances, would be the original statement and not a copy or any recollection of its contents.

The rules governing expert evidence are quite strict, and physicians are not allowed to give their opinions, except upon statements of facts which are clearly given and cannot well be misunderstood. In a late New York case, it was held that an expert could not be asked whether, in his judgment, "based on all the testimony" and "on the whole case," a criminal was sane or insane, as the jury would not be able to tell upon what facts the witness based his opinion. The proper course is for the counsel to frame hypothetical questions stating exactly certain facts, assumed to be proved, and then to ask the witness his opinion, based on such facts. An expert witness cannot be asked his opinion, founded on what he has heard other witnesses testify.

Veterinary surgeons are held liable to the same requirements of care and knowledge that members of the medical profession are subject to. A recent suit in Nebraska brings out clearly the law bearing on such cases. The Court said: "A veterinary surgeon impliedly engages and is bound to use, in the performance of his duties in his employment, such reasonable skill, diligence and attention as may be ordinarily expected of persons in that profession. He does not contract to use the highest degree of skill, nor an extraordinary amount of diligence, but to exercise a reasonable degree of knowledge, diligence and attention."

The Iowa Code seems to open a possible opportunity for injustice to insane persons by not requiring their presence at examinations into their mental condition. A recent case states that if the Commissioners of Lunacy, after preliminary inquiries as to the condition of one sought to be adjudged insane, shall be of the opinion that his presence, during the investigation, would be injurious to him or without advantage, they may dispense therewith.

There does not seem to be any requirement of a personal notice that the examination is to be held, and it would appear that a person can be declared insane, who does not know that any proceedings are on foot for such a purpose.

PERISCOPE

Koch's Remedy.

The *Johns Hopkins Hospital Bulletin*, January, 1891, contains a very discreet report by Dr. A. C. Abbott of the impressions made upon his mind by a visit to Berlin, to investigate the use of Koch's remedy for tuberculosis. In this report, Dr. Abbott says: I shall not attempt to give in detail an account of the cases which were seen by me but shall present the general conclusions at which I arrived. Judging from the cases which I had the opportunity of seeing, I feel justified in concluding that the outlook for those coming under the head of "surgical tuberculosis" is a very favorable one. In the lupus cases particularly, one may say that up to date cure has certainly been effected in a fair number. These cases, as was pointed out by Koch, present altogether the favorable material for the observation of both the systemic and local reactions following the injections and, as a rule, respond in an astonishingly rapid manner to the treatment.

In the group of surgical cases coming under the head of "joint tuberculosis" the injections of the virus have not rarely been continued until the systemic reaction practically ceased to appear even though large doses may have been reached, and still the local expression may have improved but slightly or not at all. In one such case that I call to mind the joint cavity was subsequently opened and it was found a mass of necrotic tissue containing tubercle bacilli. This tissue was lying free in the cavity and had been thrown off from a point on the wall of the joint which still presented the characteristics of tuberculous tissue.

In a second case which I saw demonstrated there was every reason for believing that the condition was identical with that of the joint to which I have just referred.

At operation, however, there was a conspicuous absence of anything in the joint that would lead one to suspect the presence of offending necrotic tissue. At the point, however, on the cartilage was an old scar, evidently of tubercular origin, and it is not improbable that the irritation of and effusion into the joint may have resulted from the local reaction in this bit of scar tissue; a reaction analogous to that seen in the scar tissue of the skin which remains after surgical operations for the removal of underlying tuberculous processes.

In the joint troubles of this character the best results which may be expected will be those arising from the action of the virus, combined with the treatment of the joint by the ordinary surgical measures.

It is as yet impossible to say what the result of the treatment in the pulmonary manifestations of the disease will be. Evidence in this department accumulates so very slowly that one is hardly justified in speaking confidently as to the results.

The employment of the agent in laryngeal cases of tuberculous nature should be conducted with the greatest care, and the treatment should begin with even a smaller quantity of the agent than that ordinarily employed as the minimum dose for other troubles. The conjestion brought about in the tissues of this organ as a result of the treatment may plainly be seen to be of a dangerous, if not a of fatal, nature.

As is well known, Koch has said positively that phthisical patients in whom the disease is but only slightly advanced can be cured by the systematic employment of the virus. In his experience this class of patients were in a number of instances pronounced as cured after from four to six weeks. He claims further that a patient in whose lungs cavities of limited extent exist may be very much improved, and indeed almost cured by this method.

It has not been my province as yet to see any of the cases which have been reported as cured, though I have seen a number in which the tubercle bacilli were said to have disappeared for longer or shorter periods of time from the sputum of the patients.

From my personal experience in the wards in which the pulmonary cases were being treated, I feel constrained to say that, in my opinion, it is only with the greatest conservatism that one should express an opinion as to the result of the treatment. There is no doubt that many of these patients gave evidence of improvement, but for one to say positively that they were cured would, I believe be, at present, a little premature.

In concluding his report, Dr. Abbott expresses the opinion that the outlook in surgical cases of tubercular nature is good, particularly in those most superficially located; that, in the lung cases, the outlook appears to be fair if the cases are treated sufficiently early. For advanced cases he thinks it would be premature to do more than speculate, in view of the existing evidence. The intestinal cases, so far as they have as yet been observed, he thinks are unpromising.

New Remedies for Whooping-cough.

In the *Deutsche med. Wochenschrift*, January 19, 1891, Boas gives an interesting review of some new remedies for whooping-cough. Antipyrin was first used by Genser, who reported his experiences with 120 cases. The average duration of the disease was twenty-four days, as compared with the usual sixty to ninety days. Genser gave, as a dose, one and a half grains for each year of the child's age. Sonnenberger reported upon 70 cases. To young children he gave doses of from half of a grain to one and one-half grains three times a day; to older children, from two and a half grains to fifteen grains. He observed marked lessening of the severity of the attacks and shortening of the duration of the disease. Antipyrin is by no means always harmless, it appears, and there are a number of cases of poisoning from its use. Rothe, who has observed unfavorable results from the employment of antipyrin, uses a combination of tincture of iodine and carbolic acid, and proclaims its great advantages. Of a hundred cases upon this treatment he could recollect none in which the disease lasted longer than four weeks. He makes use of the following solution:

℞	Acidi carbol.	gr. iss
	Alcoholis	♏iss
	Tinct. iodi	gtt x
	Tinct. belladonnæ	gtt xxx
	Aq. menth	f℥ii
	Syr. opiat[1]	♏xv

M. To children over two years of age, a teaspoonful every two hours.

Antifebrin has also had advocates. The

[1] Contains, according to Ewald, only about 1½ hundredths of a grain of extract of opium.

dose is from one-half to four and a half grains, three times a day, according to the age of the child.

Heiman employed phenacetin in a case in which antipyrin had failed, and the result was so surprising that he employed it in two other cases. It diminished the number of the attacks from fifteen to three, and for a day at a time they ceased entirely, but returned at night if phenacetin was not given. The dose for a child three years old was one and a half grains three times a day.

Moncoroo, in 1885, was the first to recommend resorcin locally in whooping-cough. His results have been confirmed by others.

The fumes of sulphur have been recommended by Manby and Weissberger. The latter speaks enthusiastically of the remedy. He burns morning and evening one hundred and fifty grains of sulphur and exposes the child for an hour to the vapor. The gas generated is not concentrated enough to more than provoke a slight irritation of the throat and nasal mucous membrane.

Stepp recommends bromoform, which is given in drop doses in water. A child three to four weeks old receives one drop three or four times a day, older children in proportion. One hundred cases are reported and no disagreeable symptoms have been observed. Recovery resulted in from two to four weeks. Care is required on account of the volatility of the bromoform, because it is easily decomposed. It should be kept in dark bottles. Löwenthal confirms Stepp's statements, and also reports one hundred cases. The highest quantity taken (during the course of the disease) was five drachms, the lowest seventy-five minims; the separate doses were the same as those employed by Stepp. In a few cases Löwenthal observed weariness and sleepiness after giving the drug, and in one case, probably on account of too large a dose being given, poisoning occurred, but it was quickly overcome by stimulants.

Neumann reports that the bromoform has a favorable influence, but it does not shorten the attacks decidedly. Louis Fischer's experience with it has also been very favorable.

Schilling has experimented with chloroform water in the form of inhalations: a teaspoonful of warm water is put into the receptacle of the inhalation apparatus and chloroform added in drops according to the age of the patient. The sitting is ended as soon as the water, converted into steam by heat, has been used up. Four sittings are given a day. These inhalations act favorably upon the attacks and upon the duration of the disease. Sixty-two cases are reported.

Manasse recommends, upon an experience with forty-one cases, terpin hydrate, which is administered according to the following formula:

℞ Terpin hydrat. . . . . gr. viiss–xv
In. pulv. No x.
Sig. One powder three times a day.

Improvement is said to occur with certainty in four or five days. Manasse reports a favorable influence especially upon the bronchitis which is nearly always present. Digestion is in no way influenced by terpin hydrate, and it has no systemic action. Telamon recommends terpin hydrate with antipyrin:

Terpin hydrat. . . . . gr. xv–xxiii
Antipyrin . . . . . gr. xv
Syrupi aurantii cort. . . . . f℥iss
Aq. Liliæ (Linden) . . . . . f℥ij
M. Sig. One to two coffeespoonfuls several times a day for a child from one to four years old.

A very new remedy is ouabaïne, an alkaloid obtained from a root used by the Somalis as an arrow poison. It is recommended in whooping-cough by Gammel. One-twentieth of a milligram is the dose. The results obtained by its use thus far have not been brilliant.

A Failure with Koch's Remedy.

The *New York Medical Journal*, February 14, says: A significant case was reported at the last meeting of the New York Pathological Society, on Wednesday evening, that seems to us to go far to exemplify the force of the cautions inculcated by Virchow's observations, subsequently re-enforced by Henoch's, as to the possibility of spreading or intensifying a moderate tubercular invasion by the employment of the Koch treatment. The case was that of a man presenting the rational and physical signs of pulmonary tuberculosis, but in whom no pulmonary cavity could be detected. After he had been given twenty-four injections of Koch's liquid, in the usual doses and at the usual intervals, the number of bacili in the sputum was found to have increased, and the patient's condition was decidedly worse. A cavity was detected in the apex of the lung, and the patient died shortly after the discontinuance of the Koch treatment. After death, the cavity was found in the lung, about as large as a lemon, and there was

miliary tuberculous disease of the lungs. The tuberculous foci were surrounded by intense congestion, and the meninges of the brain and various organs were also highly congested. The opinion was expressed that at the outset the case was eminently a proper one for testing the efficacy of the Koch treatment.

Cremation and its Safeguards.

The *Lancet*, January 31, 1891, says: Unfortunate circumstances connected with the death of the late Duke of Bedford have brought into prominence an important question respecting the procedure of the Cremation Society, of which the late Duke was a prominent member, in cases of death from other than purely natural causes. It is clear that in the case of the Society absolute certainty as to the cause of death when other than natural can alone justify the preferential application of its method. It will therefore be interesting to examine the practical value of the safeguards adopted by the Society to prevent the chances of fallacy in a matter so important. These are three—namely: (1) the certificate of the medical practitioner in attendance on the deceased during his last illness; (2) a second independent certificate by another practitioner after careful inquiry into the circumstances attending the illness; and (3), should any doubt remain, the evidence afforded by necropsy. A further, though possibly less permanent, security exists in the resolution of the Society to refuse cremation in any case where the least doubt exists respecting the cause of death. Such doubt, as observed by Sir Henry Thompson, could remain after necropsy only in an extremely small number of cases, and would, in fact, be virtually abolished. Not actually so, however. There still remains a minimum uncertainty, and this, it is apparent, is much greater where certification even on the very careful system employed by the Society, is alone relied upon. The practitioner in attendance might, in spite of diligence and skill, be misled—for example, in a case where the signs of poison were obscurely blended with those of real or supposed disease. In this connection the case of the late Mr. Maybrick is suggestive. Is it then to be believed that a second medical testimony, which would be independent of the former, could be relied on to guarantee the difference of opinion which would necessitate an appeal to the coroner? We should rather expect that this latter evidence, divested as it must be of various technical premises which guided the statements in the first certificate, would be at best a carefully weighed and usually confirmatory assertion of moral certainty. After all it is probable that the most reliable safeguard against a too precipitate practice of cremation which we possess is to be found in the resolutions of the Society above mentioned. Cremation therefore under its present rules is certainly a valuable means of promoting accuracy in certification. As affording an absolute guarantee of such accuracy it cannot be depended on, while it must in all cases destroy every trace of morbid or mischievous agency contained in the tissues. While therefore we freely admit its practical security against any miscarriage of justice in the vast majority of cases, we cannot admit that it stands in this respect on a level exactly so high as the practice of burial. Moreover, while we also recognize its more absolute and destructive purity in the disposal of infectious dead, we do not see that it possesses any such advantage in comparison with burial in other cases, provided that burial be conducted, as it increasingly is conducted, on a rational or "earth to earth" system.

Treatment of Tuberculous Abscesses with Hot Water Flushing.

Mr. Arthur E. Barker, Surgeon to University College Hospital, says, in the *British Medical Journal*, February 7, 1891: Hitherto the usual treatment of large tuberculous abscesses, whether connected with a diseased spine, with broken-down glands, or in the soft parts, has left much to be desired. Whether they were simply allowed to burst, or were opened and dressed antiseptically, or whether they were aspirated with or without subsequent injection of germicidal fluids, the results have often been far from satisfactory. Either the discharge, however sweet, has gone on for an indefinite time through open sinuses, or the abscess has become infected with saprophytic organisms, and only too often with acute septic processes.

Having had considerable experience in the removal of tuberculous material from widely diseased hip-joints with hot water flushings applied in a special way, and hav-

ing seen case after case heal completely and permanently without any drainage, under one dressing, after such treatment, I have been encouraged to apply the same method to large tuberculous abscesses elsewhere. The results have exceeded expectation, and have encouraged to further trial.

The *modus operandi* is simply this: Take the case of a psoas abscess, in which the bone lesion is apparently stationary, or perhaps healing, but where a large collection is steadily, though slowly, advanced towards the skin of the thigh. In such a case a two-inch incision is made through sound structures over the lower end of the swelling. Through this opening a hollow gouge is inserted, which is connected with a reservoir of hot water at 105° to 110° F. by a rubber tube some 6 feet long. This reservoir (a 3-gallon can) is raised about 5 feet above the operating table. When the water is now turned on it rushes through the long gouge to the fundus of the abscess with considerable force, and the reflux carries the contents of the cavity out by the incision. By gently scraping with the flushing scoop the more solid caseous matter is dislodged, the hot water carrying it clear out of the cavity at once. Then the walls of the cavity are gently scraped in a methodical manner until the soft lining is loosened and carried away from every part of the abscess. In order to effect this thoroughly I have had these scoops made of varying length, so that the deeper parts can be reached. In the case of a psoas abscess they can be carried up under Poupart's ligament nearly, if not actually, to the spine. In using them all violence must be avoided, lest important structures should be torn, or lest the fibrous wall of the abscess should be broken through, and, finally, to avoid bleeding. With hot water the bleeding is but slight if the peeling be done cautiously.

When the water runs out clear after having been carried to all recesses of the cavity, the instument is withdrawn. Then any excess of water is squeezed out, and if the deeper parts are accessible, sponges are used to dry out the last traces of moisture. Then two or three ounces of fresh iodoform emulsion are poured into the deepest part of the abscess, and stitches are inserted in the edges of the incision. Before these are knotted all excess of emulsion should be squeezed out of the cavity. The knotting of the silk sutures then completes the procedure. As no drain tube is used at all, a simple dry dressing of salicylic wool is alone required, but it should be laid on in considerable quantity, so as to exert elastic pressure over the whole area of the abscess when bandaged. Such a dressing may be left on for about ten days, when it is time to remove the stitches, and the wound should then be firmly healed. A piece of salicylic wool secured by collodion at the edges should, however, be laid over it to keep it from chafing for a few days longer, and the elastic pressure should also be kept up.

Such a procedure is only demanded for the larger tuberculous collections, such as, for instance, psoas, iliac and lumbar abscesses. Of course, for those that can be fairly isolated, no treatment is better than to dissect them cleanly out without rupturing them—a practice I am very partial to. This can be done in perhaps a much larger proportion of cases than is commonly supposed, even when the contents are fluid. Again, in the case of softening tuberculous glands, it is the proper thing to dissect round them and remove them entire, and wounds thus made ought to heal by first intention and without drainage. Some of the larger abscesses, such as those alluded to above, may also ultimately be cured by aspiration of their contents and injection of iodoform emulsion. But in my own experience of many such cases this requires considerable time, is uncertain, and is only to be achieved when the contents are very fluid. Where there is much solid matter which will not pass through the needle, I know no method so reliable and so speedy as that of mechanical hot water flushing. I have always called this "flushing," as it is something totally different to mere irrigation, which does not carry away the material one is anxious to have removed.

Massage as a Cause of Pyemia.

In the *Vratch*, No. 21, 1890, p. 474, Dr. Petr S. Novitzky, house-surgeon to the Kazan Military Hospital, records a very instructive case which proves that massage of a suppurating gland can easily give rise to the so-called "multiple or metastatic pyemia." A shopkeeper fell ill with suppurative inflammation of his right parotid gland. On the sixth day of the disease, he energetically rubbed into the fluctuating tumor some gray mercurial ointment. In a few minutes there appeared severe rigors, while the swelling markedly decreased in bulk. In the course of two days there developed

several abscesses (varying in size from a nut to a pigeon's egg) on the right side of the scalp and neck and in the right submaxillary region. On the fourth day (after the rubbing in), the left major pectoral muscle became inflamed. On the tenth, a large abscess on the right calf made its appearance. On the seventeenth, the right lung was found affected. On the twentieth, the patient died of exhaustion. According to Dr. Novitzky's theory, the energetic manipulations, made by the man on rubbing in the salve, had driven pus from the parotid abscess into the adjacent lymphatic and blood-vessels. Pointing to his case, the author earnestly warns against practicing local massage in cases of suppurative parotitis or mastitis (which method has been recently recommended by Dr. Zemblinoff, of Usman, in the *Vratch*, Nos. 3 and 7, p. 61).

New Remedies for Ear Diseases.

Dr. Edmund Szenes, an otologist of Buda-Pesth, lectured before the Imperial Society of Physicians at Buda-Pesth, June 14, 1890, upon the therapeutic value of some new remedies introduced into the practice of ear diseases, and Dr. Patrzek makes a report upon this lecture in the *Allgemeine med. Central-Zeitung*, January 3, 1891.

Menthol, according to Szenes, has proved of value in the treatment of furuncles of the auditory canal. A twenty per cent. solution of it is used, and a pledget of cotton wet with it is placed in the canal. A twenty per cent. solution of aceto-tartrate of aluminium is likewise of good service. In using it, patients are directed to fill the auditory canal every three hours with a warmed solution, and to keep it in the ear for some minutes. Kirchner has recommended the following solution for furuncles:

℞ Corrosive sublimate . . . . . gr. ¼
Water . . . . . f℥i
Glycerine . . . . . f℥v

He alludes to staphylococci detected by him in the secretion of the furuncle. Szenes says the sublimate acts best after incision or spontaneous opening of the furuncle. Szenes has also employed acetate of aluminium, which is much prized as a remedy in furunculosis of the auditory canal. It is diluted four times with water. It allays the pain but does not shorten the course of the disease process. During the last epidemic of influenza, in the first stage of acute inflammation of the tympanum, a fifteen per cent. solution of carbolic acid in glycerine did good service. Szenes is not enthusiastic over creolin; all antiseptic fluids which are not clear should be banished from ear practice. Iodol, which has been recommended in place of iodoform, accomplished no results in otorrhœa, notwithstanding its daily use for several weeks; and salicylate of bismuth and aristol were of as little service.

Szenes has the following to say about the much-used treatment with powdered boric acid: "When the perforation in the drum membrane is sufficiently large, and occupies a convenient position; when there is no caries of the ossicles, or of the tympanic wall; when, moreover, no affection of the mastoid exists, and when, therefore, no retention of pus and its effects are to be feared, then, after proper cleansing and drying of the tympanum, a little boric acid can be blown into the deeper parts of the external auditory canal."

Lactic acid, even in weak solution, causes pain and erosions, so that soon it has to be given up. Cocaine, recommended by Kieselbach, for tinnitus, has in no case proved effective. At the Prague ear clinic of Prof. Zaufal, Szenes saw massage employed, and he praises its effect in diminishing pain and promoting absorption. The hand is anointed with iodine ointment and the mastoid and the region behind the ante-tragus is stroked downwards, on the side of the neck, and as far as the clavicle.

Lupus and the Koch Fluid.

After brief references to the enthusiasm which the first announcements of Koch as to his remedy for tuberculosis aroused and to the reaction which has set in, accelerated by the reports of Virchow, Dr. Hermann Isaac, of Berlin, in the *Deutsche Medizinal Zeitung*, January 19, 1891, discusses the utility of the remedy in the treatment of lupus. While in the case of tuberculosis of internal organs, the most cautious dosage and careful observations cannot obviate occasional untoward results, experience teaches that the remedy exerts its specific curative influence especially in tuberculous processes of exposed surfaces. In the case of lupus no obstacle is interposed to the extrusion of the structures cast off as a result of the action of the injection of the Koch fluid. An important

consideration in the treatment of lupus in this way lies in the fact that the patients are usually otherwise robust and healthy. So striking is this that there are yet distinguished dermatologists who do not admit the identity of lupus and tuberculosis. Isaac, however, considers the reaction with the Koch fluid to decide the tuberculous nature of lupus.

Dr. Isaac observes the precaution to make the initial injection one milligram (.001). A boy of thirteen, with lupus of the left cheek, reacted typically to a half a milligram (.0005). An elderly woman with lupus of the upper lip of forty years' standing was much improved after having received ten injections. At the same time she was relieved of distressing dyspnœa arising from emphysema. Marked general reaction occurred in a case of lupus erythematodos after the injection of eight milligrams (.008). No local reaction was apparent, although the efflorescences receded after repeated injections. Two other cases of lupus reacted locally to one milligram (.001) of fluid, while the general condition was but little affected. In doubtful cases, involving the diagnosis of lupus from carcinoma, syphilis and some forms of eczema, Dr. Isaac thinks the remedy is invaluable.

Internal Lavage.

A few years ago, perhaps based on the fact of the deficiency of chlorides in the urine in pneumonia, it was proposed to treat this disease by subcutaneous injections of large quantities of water containing, in solution, sufficient common salt to approximate the specific gravity of the fluid to that of the serum of the blood. It was found that these injections were well borne, to say the least, and a number of the cases thus treated recovered. Now, M. Sahli, of Berne, in the *Bulletin Médical*, January 25, 1891, proposes to apply the procedure, which he calls "internal lavage," to the treatment of certain morbid states, such as typhoid fever and uremia, in which auto-infection plays a prominent rôle. The theory is that the tissues are flushed by the fluid, which carries off the noxious agents through the kidneys.

The apparatus for this method of treatment consists in a reservoir to contain a sterilized saline solution, a rubber tube, and a large, hollow aspirating needle. The needle is introduced into the subcutaneous connective tissue of the thigh or buttock, and the fluid is placed at a height sufficient to obtain the desired degree of pressure. M. Sahli injects a pint of the solution every day, or even twice a day. Often copious diuresis results. In some cases the fluid is taken up and retained by the tissues deprived of their normal fluids by the disease process.

Copaiba Balsam as a Diuretic.

In the *Meditzinskoiĕ Obozrenīĕ*, Nos. 13 and 14, 1890, p. 73, Professor Ivan N. Obolensky, of Kharkov, warmly recommends copaiba balsam as a powerful diuretic eminently suitable for dispelling dropsies of cardiac origin. Having tried this old-fashioned remedy (in the daily dose of from 20 to 40 grains, in emulsion), in nine cases, the author has found that, 1. As a diuretic agent, copaiba is by far superior to digitalis, convallaria, adonis vernalis, stigmata maïdis and calomel. 2. It acts very quickly, an abundant diuresis being equally established about the end of the first 24 hours. 3. The effects are stable and long-lasting, the patient's organism showing no tendency to habituation towards the remedy (the same dose producing the same diuretic effects for weeks). 4. Of disagreeable concomitant effects, there are occasionally observed heartburn with eructations, increased frequency of micturition, abdominal pain with liquid stools, and admixture of red blood-corpuscles to the urine. 5. Such phenomena, however, are always mild, no necessity arising to discontinue the administration of the remedy. 6. The balsam does not exercise any influence on the cardiac action, or pulse, or arterial tension. 7. Its diuretic action appears to depend upon its directly stimulating the renal secretory nerves.

Treatment of Hemeralopia with Injections of Antipyrin.

Hemeralopia is a condition in which vision is impaired so that it becomes imperfect when the light is not strong. Instillations of pilocarpine or eserine have been used in its treatment. The *Wiener medizinische Presse*, January 4, 1891, quotes three cases reported by Grandelément in *Lyon med.*, No. 50, 1890, in which good results were obtained by the subcutaneous injection of antipyrin on alternate days, for a long period.

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The Editor will be glad to get medical news, but it is important that brevity and actual interest shall characterize communications intended for publication.

HEMATURIA IN TYPHOID FEVER.

Hematuria, or the passage of bloody urine, may arise from disease or from traumatism of the kidney, ureter, bladder or urethra. When from the kidney and ureter, the blood is usually intimately mixed with the urine; when from the bladder, the first urine passed is usually clearer than the last, and clotting is more common than in the case of hemorrhage from the kidney. When the blood comes from the urethra, it is possible, by passing a catheter into the bladder, to obtain clear urine. These statements regarding the characteristics of hemorrhage from the different urinary organs must, of course, be accepted as general truths only; exceptions are not infrequent.

A very rare cause of extra-renal hematuria is typhoid fever, and to it A. Létienne directs attention in a communication published in *La Médecine Moderne*, December 18, 1890. It appears from this paper that Chomel, Andral and Louis carefully noted in their autopsies on cases of typhoid fever the condition of the bladder. Subsequently J. Cossy, in 1843, collected their observations and published them, adding eight of his own. Following Cossy, Lecorché, Homolle, Murchison and Griesinger have all mentioned the condition and dwelt upon it with more or less detail.

The hematuria occurs frequently without premonitory symptoms, and without pain. In the cases observed by Létienne in the service of Lecorché, the blood was uncoagulated, and imperfectly mixed with the urine; the blood corpuscles were rapidly precipitated to the bottom of the vessel. There were no clots, or only small ones, indicating that there had been no notable extravasation in the bladder. The hematuria may not occur with each micturition; it may occur once, then disappear, to recur several days later, or it may be continuous. The quantity of blood varies in different cases.

Hematuria usually appears late in typhoid fever, though it may occur at the onset of the disease, as in a case reported by Lecorché. It has no such effect in reducing temperature as intestinal hemorrhage has; on the contrary, it may be followed by an elevation of temperature, for the lesion which causes it may permit of the re-absorption of septic products.

The prognosis of cases of typhoid fever in which hematuria occurs is generally graver, as the passage of blood indicates the wide dissemination of the infectious agent and a lessened resistance on the part of the patient. But, of course, if it constitutes the only anomalous symptom in a patient otherwise doing very well, it becomes of no importance. The lesions which provoke the hemorrhage appear in the form of ecchymoses, of nipple-like prominences, discrete or grouped ulcerations, and of gangrenous spots on the mucous membrane.

Hematuria occurring in typhoid fever is

admittedly rare, and some may think it not worthy of serious consideration. It sometimes happens, however, that the cause of a rare condition affords an explanation of some other condition not so rare and more important. It is well known that palsy follows many of the acute infectious diseases especially the exanthemata. Many cases are on record in which palsy has occurred during convalescence from typhoid fever, scarlatina and measles, not to mention diphtheria. The cause of these palsies has not been very satisfactorily determined. Doubtless hemorrhage occurs in a number of cases, the specific poison so acting upon the vessel walls that the blood can escape. This explanation is borne out and strengthened by the lesions just described as occurring in typhoid fever in the bladder, where they are so gross as to be capable of demonstration; whereas in the brain or cord they could be suspected only, since autopsies upon persons suffering with such palsies are rare and have been performed for the most part only after the palsy has lasted a long time and, consequently, the possibility of detecting the primary lesion very slight.

MATERNAL IMPRESSIONS.

The influence of maternal impressions upon the fetus in utero is a matter not only of scientific interest, but also of certain practical value. From the time of Hippocrates it has been held by the medical profession that psychical or physical impressions made upon the pregnant woman gave rise to marks, deformities and malformations evident in the child at birth. Such a view is also firmly implanted in the popular mind, as perpetuated in the term "mothers' marks." The problem is one difficult of solution. Though it may not be possible to explain the occurrence of abnormalities in the fetus as a result of influences acting upon the mother during pregnancy, the first step in that direction would be the collection and careful analysis of a large number of records of cases, so as to determine whether the association be merely accidental or coincident or related as cause and effect.

The *Edinburgh Medical Journal*, for January, 1891, contains an address read by Dr. J. W. Ballantyne before the Edinburgh Obstetrical Society, in which he reviews the subject of maternal impressions, and reports four cases. In one, a woman having an aversion to frogs was terrified early in her first pregnancy by a dead frog thrown at her by a friend. At term she gave birth to an anencephalic child. Becoming pregnant a second time she was again delivered of an anencephalic infant. The significance of this case is lessened by the fact that the father, by a first wife, had a hydrocephalic child. In the second case, a woman who was struck, during the third month of pregnancy, by a deaf-and-dumb peddler, gave birth to a child which at the age of three was yet deaf and dumb. In the third case, a mother gave birth to a child minus three fingers of the left hand. During her pregnancy, she had been alarmed by a wood-chopper falling heavily on the same three fingers of the left hand of another child. In the fourth case, one son resembled physically, mentally and personally a maternal uncle, while a second resembled the maternal grandmother. In each instance, the relative in question had been a source of anxiety during the respective pregnancy.

Dr. Parvin, in the second edition of his work on *Obstetrics*, also gives four cases of maternal impressions. To arrive at some definite conclusions upon this subject, it is recommended that the following points be inquired into: The period in pregnancy at which the impression was made; the character of the impression; the channels through which the impression was received; the mother was conscious of the impression and anticipated a defect in the child; the duration of the impression; the influence of heredity.

The practical deductions to be drawn

from this subject, independently of its explanation, are that during pregnancy a woman should lead a life of tranquillity, avoiding excitement, relieved of anxiety, spared depressing emotions and provided against deprivation and want.

DUST AND TUBERCLE BACILLI.

The question of the dissemination of tuberculosis is so interesting and important that we may call attention to an observation in this direction by Dr. M. T. Schnirer, of Vienna, recorded in the *Wiener Medizinische Presse*, January 4, 1891. One day in 1888, on rinsing the dust from some grapes, bought on a warm day, late in the summer, he found the water afterwards quite dirty. Struck by the thought of the large number of phthisical patients who eject their sputa upon the streets, he injected ten cubic centimeters of this water into the abdominal cavity of each of three guinea-pigs. One of the animals died in two days of peritonitis. The other two died in forty-five and fifty-eight days respectively. Examination of the bodies disclosed exquisite tuberculosis, originating at the site of inoculation, and partially caseous nodules in the peritoneum, in the liver, in the spleen, with but meagre deposits in the lungs. Tubercle bacilli were found in the nodules. Dr. Schnirer concludes that the conveyance was by means of the dust, as the water used was the pure spring water of Vienna, and the glass receptacle containing the water, the doctor's hands and the syringe with which the injection was made had been previously sterilized. He assumes, though without direct evidence, that the vender from whom the fruit was obtained was healthy.

The point Dr. Schnirer makes is, that tubercle bacilli may be in the dust of public streets, and may be attached to fruit or other articles exposed for sale and afterwards used for food.

This fear seems to be exaggerated and contrary to the inferences deducible from Cornet's investigations; for Cornet failed to find bacilli in street dust. Still, the observation of Schnirer is an interesting one, and its true significance may be estimated when taken in connection with facts continually accumulating. The experience of Schnirer may be open to inferences very different from those which he draws; but in any case, it is interesting to record and worth remembering in studying the important subject of tuberculosis.

DEATHS IN COLD WEATHER.

The recent cold weather in Europe serves to strongly illustrate the inability of the aged to withstand exposure. A recent number of the *London News* states that in the second week of December, 1890, the number of deaths among persons eighty years old reached 100, while during the following three weeks, which were so unprecedentedly cold, the number increased to 116, 142, 148. In persons afflicted with diseases of the throat and chest, the average was doubled.

While the fact that such severe weather is unusual there, and that people were not prepared to meet its rigors, accounts in a degree for the high rate of mortality, reference to the returns of our Philadelphia Board of Health shows that the rate here, where cold weather is not unusual, is decidedly higher in the colder months (in the months of January, February and March) than in the warmer months.

It is of the utmost importance that aged people expose themselves as little as possible during extremely cold or inclement weather, and when necessity compels them to do so, that they be well protected. No doubt if the increased dangers were sufficiently insisted on, in spite of the difficulty of making the average octogenarian realize that he is no longer young, the lives of many aged people would be greatly prolonged.

CORRESPONDENCE.

Aseptic Hypodermic Syringe.

To the Editor.

Sir: Will you kindly grant me space enough to add a few words more upon the subject of the aseptic hypodermic syringe devised by me.

In the issue of the Reporter for December 6, you print a wood-cut of the syringe of Prof. Koch, used in carrying out the treatment of tuberculosis. As you remark, the two instruments are constructed upon essentially the same principles, the exception being that the Koch instrument is much the more complicated of the two, with all that greater complication implies in increased liability to get out of order, greater expense, and difficulty of being kept in a strictly

aseptic condition. The graduated glass cylinder and the stop-cock features of the Koch syringe may have a use as yet unexplained in the carrying out of the Professor's ideas, but they are entirely superfluous in a syringe for all ordinary uses. In the admirable instrument made at my suggestion by Messrs. Chas. Truax & Co., of Chicago, and now for sale by that firm, the needle is connected directly to the bulb without the intervention of a glass cylinder. The directions for use are of the simplest sort. The bulb is pressed flat and the needle is inserted into some water. On releasing the bulb, the latter fills with water in five seconds or less. The water is discharged into a teaspoon, a solution is made of the tablet or powder, and the bulb is again drawn full, this time with the fluid ready for injection.

This system I have had in constant employment for nearly two years, using a roughly improvised instrument, but with never-failing satisfaction. The instrument maker now furnishes so perfect an article that a fair trial of its merits cannot fail quickly to place the bulb syringe well upon the way of superseding the ordinary form of instrument. The Koch instrument may have uses in carrying out the treatment at present associated with his name, but is not suited to ordinary everyday uses, and must be shorn of certain features before it can lay just claim to be an improvement in the direction of greater simplicity and increased efficiency.

Yours truly,
John J. Thomas, M. D.
Youngstown, Ohio.

Cancrum Oris or Gangrenous Stomatitis.

To the Editor.

Sir: On looking over the proceedings of the Tri-State—Alabama, Georgia and Tennessee—Medical Association, I noticed a report of a case of cancrum oris, which called to mind a similar case occurring in my practice in October 12, 1886. The patient, a white male, nine years old, lived eight miles in the country. I first saw the patient October 12. I made a diagnosis of typho-malarial fever. The temperature was high, the pulse rapid, the respiration hurried, and the tongue coated. The bowels had not moved for two days. The general condition of the patient, however, was good. I ordered hydrarg. chlor. mitis, gr. x; ipecacuannhæ, gr. ii; to be made into four powders, one to be given every three hours until the bowels were thoroughly moved. On October 13, at 10 A. M., the condition of the patient was much improved; the temperature was 102°, the pulse 110, the respirations 26. I now gave castor oil, and put the patient on quiniæ sulph., two grains every three hours, until ten grains were taken. I learned on the next morning that he had had several bilious actions during the previous night. I continued the quinine

for several days. Meanwhile all the symptoms seemed to have abated; when suddenly word came to me that the boy had grown worse. I saw him on the morning of October 21. His temperature was 104°; his pulse 130; his respirations 30; his bowels tympanitic, and he was very restless and complaining of severe pain in the left jaw. On examination I found a small, circular, red spot on the mucous membrane. I gave anodynes to relieve the intense pain, and used a solution of chlorate of potash locally. The symptoms continually grew worse, when, on October 24, the ulceration had grown to the size of a twenty-five cent coin, and extended through the whole integumentary surface, the lower molars becoming loose and dropping out; and the patient succumbed on October 26.

I report this case on account of its rarity, and to ascertain the possibility of its being cancrum oris, resulting from the fever or in any way the result of the mercury given in the beginning of the case. It is my opinion, and that of another physician whom I had in consultation, that it was a genuine case, otherwise mercurial salivation would necessarily have occurred, which did not obtain in this case.

Yours truly,
H. A. ALEXANDER, M. D.
Birmingham, Ala.

Politics and Pension Examiners.

TO THE EDITOR.

Sir: I wish to enter a vigorous protest against the sentiments expressed in an article copied in the REPORTER, February 21, 1891, from the *Indiana Medical Journal*, entitled "Politics and Pension Examiners." The article in question was undoubtedly written by some red-hot opponent of the administration, who takes this method of trying to create a prejudice in the minds of some members of our profession who do not take the trouble of posting themselves in regard to the workings of our system of government. The journal casts truth to one side as completely as the opponents of the administration did in the last campaign. No member of any Board of Pension Examiners is appointed by the President of the United States. The Commissioner of Pensions, with the approval of the Secretary of the Interior, makes all appointments of members of Boards of Pension Examiners. The President has nothing to do with these appointments. If Elbert has been appointed on the Board at Indianapolis, it was not the fault of President Harrison, and the author of the article in question should have known this fact before penning such a scandalous attack upon the man who fills the executive chair of this great nation with so much credit to himself and honor to the loyal people of these United States. The *Indiana Medical Journal* disclaims being a "partisan paper," but in the opinion of your correspondent, in this editorial it has descended to the lowest depths of bitter partisanship. It has not even kept within the limits of truth. And the Marion County Medical Society so far forgot its own dignity (if it passed the resolutions quoted) as to lend itself as an instrument to insult the President, and prostituted itself to base "partisan purposes" as completely as any rabid, ultra sore-headed convention of those opposed to the administration could have done. Politics is the Science of Government, and this science is one of the expressions of Truth. President Harrison has never appointed an "incompetent negro" to any position whatever. The Editor of the *Indiana Medical Journal* should stick to medical topics, instead of going into partisan politics, if he wishes to retain the respect of the medical profession outside of his narrow coterie in Indianapolis.

Yours truly,
R. L. MOORE, M. D.
Lincoln, Neb.

NOTES AND COMMENTS.

Benzin as an Antiseptic.

The *Cincinnati Lancet-Clinic*, February 7, 1891, contains an interesting article by Dr. F. W. Langdon on the use of benzin as an antiseptic and parasiticide. Dr. Langdon says:

The substance to which I desire to direct attention in the present communication is the ordinary commercial article, obtained in the distillation of petroleum, and employed in the arts as a cheap solvent of oily matters, paints, etc. Partly deodorized and re-named "rose-oil" it serves for removing grease spots from gloves and textile fabrics. It is known to the chemist as a hydro-carbon of varying constitution, and has, like all such bodies, a marked affinity for oxygen. It is often confounded (in ordinary reading)

with *benzole* or *benzene*, and I have, therefore, exhibited some of the more important contrasts of the two bodies in tabular form:

BENZIN OR BENZINE.	BENZOLE OR BENZENE.
Distilled from petroleum.	Distilled from coal-tar.
A mixture of hydro-carbons of the "marsh-gas series."	A hydro-carbon of the "aromatic series."
Specific gravity, .670-.675.	Specific gravity, .850.
Chemical formulæ: $\begin{cases} C_5 H_{12} \\ C_6 H_{14} \\ C_8 H_{16} \end{cases}$ etc., varying in exact constitution, but within definite limits.	Chemical formula: $C_6 H_4$ Unvarying in constitution.
Commonly used in dissolving oils and pigments, cleaning greasy machinery, textile fabrics, etc.	Used in dissolving gutta-percha, India-rubber, sulphur, phosphorus, iodine, some resins and alkaloids, and by microscopists for dissolving Canada balsam.

I use the above rather simple method of contrast in preference to tables bristling with the hieroglyphic diagrams of atomic constitution with which modern chemistry has familiarized our eyes, if not our understandings. It is the substance described in the first column of the table which forms the subject of the present paper.

Many years since, my attention was attracted to its value as a destroyer of low forms of animal and vegetable life, and when a boy it was my favorable application for the destruction of the larvæ of various parasitic insects (moths and beetles) known as "museum pests," as well as for the removal of molds and other vegetable parasites from bird-skins and insects.

In 1880, during my service as interne at the Cincinnati Hospital, and since then in private practice, it has fallen to my lot to treat a considerable number of cases of the skin disease known as *tinea versicolor*. It was the custom in the hospital to attack the fungus, which is the essential element in the disease, with various parasiticides, of which mercuric chloride was perhaps the favorite. This application (gr. iii to ʒi of water) effected an apparent cure for the time being, by destruction of the fungus on the surface, but invariably there would be a relapse in a few days or weeks—minute brownish spots re-appearing in the immediate vicinity of the hair-follicles and thence spreading and coalescing to form the characteristic pale-brownish patches, varying in size from a fraction of an inch to several inches in area. As it was evident that the relapses were due to the re-growth of spores situated in the depths of the hair follicles, where the watery solutions failed to penetrate, I was led to consider the advisability of using a more penetrating agent, and from my experience elsewhere in its use as a parasiticide, I selected benzin for experimentation.

Selecting a well-marked case, the application was made freely, twice a day, for three days, of a mixture of equal parts of common commercial benzin and tincture of green soap. This was applied by means of a small mop of absorbent cotton. At the same time, as a control experiment, a second case was treated with the bichloride solution. The result was that the growth disappeared in both cases, but the second case experienced the usual relapse within a week or ten days. The benzin mixture being now applied, a permanent cure resulted. I have since discarded the admixture of green soap as superfluous, sometimes diluting the benzin with a little tincture of lavender or other aromatic.

In numerous cases, in private practice, I have found it uniformly successful, not only in this disease, but in the skin diseases of mycotic origin generally, amongst which the ordinary furuncle or "boil" belongs. In the treatment of the latter important, if not dangerous affection, I have found benzin of marked value as an abortive agent, equal, at least, to the subcutaneous injection of carbolic acid, without even the small amount of pain and the slight danger of sloughing, attending the latter method.

The efficacy of benzin in furunculosis is easily demonstrated in that class of cases where one boil is followed, after its rupture, by numerous "seed boils," immediately surrounding its site, or by successive developments of single boils in the same region of the body. Here the prompt disinfection of the affected area, including the depths of the hair follicles, is a most certain method of arresting their progress towards suppuration.

The method of application is very simple. At the first appearance of the little, hard, painful papule, saturate a pledget of absorbent cotton with the remedy and press it firmly, but not forcibly, over the swelling, for about half a minute. Repeat this every hour or two for the first day, after that two or three times a day, as the swelling and pain subside. If suppuration has already taken place, in ever so small an amount, the only remedies, of course, are the knife

or spontaneous evacuation. Even with a small amount of pus in the original boil, its size may be limited and the formation of "seed boils" entirely prevented by the prompt use of the parasiticide. Due care should be taken to avoid the vicinity of a fire or light while making the application. No pain attends the application as above described.

Benzin is also the most useful and effective application for the destruction of the troublesome insects known as "jiggers" or chigoes, which, in many tropical, and some temperate countries, excite much pain and annoyance by burrowing into and laying their eggs in the skin. In the ordinary insect, as it occurs in our Southern States, and even in some parts of Ohio, I have found benzin the best remedy, penetrating their burrows and causing the death of the pests. The troublesome itching and irritation due to its movements are largely abated, though a red indurated area, surrounding its location in the tissue, will remain for some days.

Doubtless the remedy would give equally satisfactory results in scabies, but I have been unable to test it, for lack of clinical material.

I would also suggest its use in trichiniasis, as soon as possible after the ingestion of the infected meat, since a somewhat similar body, benzole (see table of contrasts), has been credited with good results in this disease. As much as two drachms has been given daily (of benzole) for from four to six days. In another recorded case, benzole was taken in quantity "of one or two ounces, probably," without dangerous symptoms. This would seem to indicate that its congener, benzin, in moderate doses, ʒss to ʒi, would be safe, and a remedy worth trying in this fearful and intractable disease.

Finally, the value of benzin as a solvent of oily secretions should not be forgotten in the preparation of skin areas for antiseptic operations. An agent that can penetrate and disinfect the pores and hair-follicles of the region to be operated upon, has advantages not possessed by any of the watery solutions in common use.

To summarize, we have in common commercial benzin an agent which is cheap, unirritating to the skin, not injuring or staining the finest fabrics, convenient of application, and possessing a wide range of usefulness as a parasiticide and anti-mycotic; its action being greatly aided by its solvent power over oily secretions, by reason of which the chief protection of the parasites is removed.

How it acts, I shall not attempt to explain, further than to note that its marked affinity for oxygen may be the key to its *modus operandi* as a parasiticide. Ignored by physicians generally, though found in every drug store at ten cents per gallon, and possessing a chemical ancestry (marsh-gas) identical with that of numerous remedies in common use, *e. g.*, ether, chloroform, iodoform, anilin, antifebrin, antipyrin, rhigolene, carbolic acid, etc., its non-use would seem to furnish another example of the truth of the adage, "Familiarity breeds contempt."

Sublimate Spray for Small-Pox Vesicles.

Dr. Talamon, in an article in the *Gazetta medica Lombarda*, 1890, of which an abstract appears in the *Journal of Cutaneous and Venereal Diseases*, February, 1891, says that, discouraged by the negative results which he had obtained in the treatment of small-pox patients with numerous internal medications which have been recommended and employed successively by a large number of physicians, he confined himself exclusively to the external and local treatment of the pustules. He tried spraying them with tannin, salol, iodoform and sublimate solutions. The use of internal remedies being, up to now, unable to cope with the germ of variola, he thought that by means of local antiseptics he might be capable of acting upon the microbes of suppuration, which cause destruction of the derma, and by a convenient modification of Lister's procedure abort the greater portion of the pustule by keeping its surface under the influence of an antiseptic.

The tannin sprayings were made with a solution containing one gram of tannin to ten grams of a mixture of equal parts of alcohol, ether and water. The tannin forms a varnish which compresses, flattens and drys the pustules, but at the same time it also produces a tension of the face of extreme painfulness, and analogous to that following the application of collodion. The use of a fifty per cent. ethereal solution of salol, sprayed on three or four times a day, calmed the pains, and was agreeable to the patient on account of the agreeable odor of the medicine. It was only found useful in the lighter forms of the disease. Its effects are nearly nothing in the coherent and confluent

forms, where the suppurative inflammation of the derma is more deeply situated. Iodoform as a fifty per cent. ethereal spray and used under the same conditions gave more satisfactory results than the salol, but less so than the use of the sublimate solution, but the disagreeable odor of iodoform rendered its employment offensive to the patient. The sublimate solution was prepared after the following formula:

Corrosive sublimate	1 gm.
Tartaric acid	1 gm.
Alcohol (90 per cent.)	5 c. cm.
Ether to make	50 c. cm.

This was applied as a spray three or four times daily; its use should not be continued too long, for it may produce a painful vesication in the form of long streaks. The individual's susceptibility to the irritant action of sublimate varies very much. In general a spraying of one minute is sufficient in skilled hands; the skin is seen to become whitish in color, which change also extends to the pustule. This coloration is due to a deposit of sublimate, and is the result which the procedure should yield. When, however, the skin is covered by pustules scattered with long interspaces, salol may be employed in order to prevent the action of sublimate upon the points not covered by pustules. Contact with sublimate is well tolerated; patients only complain of a sensation of heat, which is accompanied by a redness of the skin, more or less vivid. The writer has never observed any signs of mercurialism, which seems to indicate that the mercury is not absorbed, but only acts on the superficial layers of the derma. During the procedure it is necessary to take the precaution to protect the eyes by covering them by layers of cotton dipped into a saturated boric-acid solution. The application of the sublimate spray does not completely prevent the formation of pits, but they remarkably diminish in number and depth. It is best to commence on the first day of the eruption, after a vigorous washing of the face with soap, which may be rinsed off with boric acid and dried with absorbent cotton. If one commence on the third day of the eruption the use of soap will then be unnecessary. After the spray has been used the face should be covered with a layer of a fifty per cent. glycerolate of sublimate in order to keep the skin continuously antiseptic and free from outside germs. After the fourth day only two sprayings are necessary, but the glycerolate should be applied the same. At the end of the sixth or on the seventh day the use of the spray may be left off and the glycerolate used alone. As soon as the crusts separate the glycerolate may be substituted for the sublimate-spray, in connection with borated vaselin or salol. Dr. Talamon combined, in the coherent, confluent and grave forms of the disease, general sublimate-baths, prolonging their use for three-quarters of an hour to an hour; these, however, did not seem to have any well-marked action on the pustules situated upon the body. Still, those patients who were thus treated seemed to be less subject to the after-complications of convalescence so frequently seen. Finally, the buccal and pharyngeal eruption was treated by borated gargles and lotions.

This medication is absolutely powerless against the most severe forms—that is, the very confluent and hemorrhagic types.

Internally the therapy was limited to sustaining the strength of the patient by means of alcohol in doses of one hundred to two hundred and fifty grams daily, according to the gravity of the case. The quantity of alcohol to be consumed by the patient is increased by addition of water up to one litre; this mixture may be given continuously in broken doses.

Removal of the Gasserian Ganglion.

On Thursday, January 29, Mr. Rose operated for the removal of the Gasserian ganglion in the theatre of King's College Hospital. The patient was a female aged sixty, under the care of Dr. Ferrier, who had suffered for many years from severe neuralgia affecting chiefly the superior maxillary nerve on the right side. Chloroform was given, and after stitching the eyelids together on that side in order to avoid any accidental injury to the eye, a flap of skin was dissected forward, the zygoma was exposed, and, after openings had been drilled with an electro-motor, divided and drawn down with the masseter muscle. The coronoid process of the lower jaw was next drilled and divided in a similar manner, and turned up with the temporal muscle attached. The external pterygoid muscle was then cut through and the foramen ovale reached, into which the pin of a half-inch trephine was inserted, and a disc of bone surrounding it in this way removed. The bleeding was troublesome, and persisted for

some time. The ganglion was seized by some specially constructed hooks, one of which had a cutting edge upon its concave surface; by means of these its attachments were loosened and divided. Bi-chloride of mercury solution (1 in 3,000) was used during the operation. The bones which had been sawn were replaced and secured in position by wire sutures passed through the drill holes previously made, and a drainage-tube inserted. Cyanide gauze dressing was applied. The electric illuminator was found most useful during the deeper dissections. The patient has progressed most satisfactorily since the operation, having had no return of the neuralgic pain, although it is impossible to say at present that the whole of the ganglion was removed. The sutures were removed from the eyelids on the third day; the eye was healthy, but the conjunctiva insensitive. We hope to publish fuller details of this important case later. The operation which was witnessed by a large number of members of the profession and students, occupied about an hour and a half in its performance. We are glad to be able to state that the patient on whom Mr. Rose performed the first operation for the removal of the Gasserian ganglion in April last by a different method continues free from pain and is in good health.—*Lancet*, February 7, 1891.

Impure Drugs.

The *Medical Record*, January 31, 1891, says editorially: The last report of the New York State Board of Health shows that, while the sale of impure drugs is decreasing, it is yet lamentably large. During the year 1889, 807 samples of drugs were bought in the larger towns and cities of the State (excepting New York and Brooklyn) and subjected to analysis. The results are startling. Only 410 samples (50.8 per cent.) were up to the pharmacopœial standard, while 330 of the samples (40.8 per cent.) were totally deficient, by being either falsified, adulterated, decomposed, too strong, or too weak. The remaining 67 samples were of "fair quality." In some details the results of the analysis were as follows: Dilute acetic acid, 46 samples examined; 9 good, 6 fair, 19 inferior, and 6 of excessive strength; this is of unusual importance because of its use in the manufacture of spirits of Mindererus. Dilute nitric acid, 4 samples: 1 good, 3 excessive strength. Dilute sulphuric acid, 53 samples: 9 excessive strength. Hydrobromic acid, 38 samples: 6 inferior and 6 excessive strength. Saffron, 20 samples: 2 good, 1 fair, 17 inferior. Compound spirits of ether (Hoffman's anodyne), 47 samples: 4 good, 4 fair, and 39 inferior. Strong ether, 66 samples: 40 good, 4 fair, and 22 inferior. Precipitated sulphur, 25 samples: 6. good, 2 inferior, 17 inferior. Besides these, inferior samples of oxalate of cerium, chloral and chloroform were found. 115 samples of cream of tartar were bought at grocery stores, and of these only 30 were good preparations, 6 being fair, and 79 "clearly adulterated or falsified." Also there were examined 275 samples of alkaloidal preparations, including sulphate of quinine, citrate of iron and quinine, sulphate of morphine, and tincture of opium. Of these 177 were good, 13 of fair quality only, and 85, or 30 per cent., were "unreasonably deficient."

The object of the work is not so much to determine the proportion of adulterated to pure drugs on the market as to expose actual adulteration, sophistication and carelessness; to inform the public and to caution dealers. Consequently a great variety of drugs was not purchased, and only those were chosen that were likely to be adulterated. But though the frightful showing of the figures above does not represent the actual proportion of impure drugs sold, it shows the deplorable chance to which a physician in prescribing is subjected. One inclined to be facetious might remark, that, what with the difficulty of making a correct diagnosis, the furore and trouble the germs are creating, the chance of getting impure medicine, and the awful weather, it is a wonder that any of our patients live.

The practical value of these analyses comes from the fact that notices are sent to dealers from whom impure drugs are bought, notifying them of the impurities. Rarely does a second notice have to be sent and the standard of preparations is being gradually raised to that of the Pharmacopœia. The law is adequate to its purposes. It simply needs enforcement. After one or two or three warnings the penalties laid down should be applied. In the examination of alkaloidal preparations the bulk of attention was very properly paid to quinine preparations, as the report states that some druggists sell as many as two hundred thousand two-grain pills annually, and that fifty thousand is the estimate made of the

avarage number sold by a druggist doing an ordinary business.

Medical Society of the State of Pennsylvania.

The forty-first annual meeting of the Medical Society of the State of Pennsylvania will be held in Reading, on Tuesday, Wednesday, Thursday and Friday, June 2–5, 1891.

The appointments for 1891 are, 1. Address on Practice of Medicine, Dr. J. Chris. Lange, Pittsburgh; 2. Address on Surgery, Dr. O. H. Allis, Philadelphia; 3. Address on Obstetrics, Dr. J. Milton Duff, Pittsburgh; 4. Address on Mental Disorders, Dr. Samuel Ayres, Pittsburgh; 5. Address on Ophthalmology, Dr. J. A. Lippincott, Pittsburgh; 6. Address on Hygiene, Dr. A. B. Brumbaugh, Huntingdon.

The report of the Committee on the Revision of the Constitution, Dr. W. M. Welch, *Chairman;* and the report of the Committee on Incorporation, Dr. C. W. Dulles, *Chairman*, are to be acted upon.

The Chairman of Committee of Arrangements is Dr. Samuel L. Kurtz, Reading, to whom all applications to read papers at this session should be sent *not later than April 1.*

Secretaries of County Medical Societies are earnestly requested to forward at once complete lists of their officers and members, giving the post-office address of each.

Every delegate, before admission, shall present a certificate of delegation signed by the President or Secretary of his County Society.

Every permanent member (not a delegate), before admission, shall present a certificate of good standing in his County Society.

Railroad facilities will be announced when obtained. All who desire excursion orders should notify the Permanent Secretary, Dr. Wm. B. Atkinson, Philadelphia, stating what railroad must be used.

Warren Triennial Prize.

The Warren Triennial Prize was founded by the late Dr. J. Mason Warren in memory of his father, and his will provides that the accumulated interest of the fund shall be awarded every three years to the best dissertation, considered worthy of a premium, on some subject in physiology, surgery or pathological anatomy, the arbitrators being the physicians and surgeons of the Massachusetts General Hospital. The subject for competition for the year 1892 is On Some Special Subject in Physiology, Surgery or Pathology. Dissertations must be legibly written, and must be suitably bound so as to be easily handled. The name of the writer must be inclosed in a sealed envelope, on which must be written a motto corresponding with one on the accompanying dissertation. Any clew given by the dissertation, or any action on the part of the writer, which reveals his name before the award of the prize, will disqualify him from receiving the same. The amount of the prize for the year 1892 will be $500. In case no dissertation is considered sufficiently meritorious, no award will be made. A high value will be placed on original work.

Prevention of Narcotic Inebriety.

At a meeting of the American Association for the Cure of Inebriety, held Feb. 18, at the Academy of Medicine, New York, Dr. J. B. Mattison, of Brooklyn, offered the following preamble and resolutions:

Whereas, a leading cause of Morphinism, Chloralism and Cocainism is the facility with which morphine, chloral and cocaine can be procured from pharmacists: and,

Whereas, the refilling of prescriptions containing these drugs is a potent factor in the rise and growth of these diseases:

Therefore, be it resolved, as the sense of this Association, that no retail druggist should sell morphine, chloral or cocaine, except on a physician's prescription, and that no prescription containing morphine, chloral or cocaine should be refilled except on the written order of a physician.

These resolutions were unanimously adopted, and a committee consisting of Drs. Mattison, Crothers and Wright was appointed to secure legislation along the line of the resolutions.

Pyoktanin Stains.

Merck's *Bulletin* says that stains with pyoktanin may be removed from the hands by washing with spiritus saponatus, or with a ten per cent. solution of castile soap in alcohol, or with liquor sodæ chlorinatæ. Pyoktanin pencils, when broken, are mended by simply wetting the severed surfaces with water, and pressing them together gently; when dry they will cohere.